Dairy Situation

Economics, Statistics, and Cooperatives Service

U.S. Department of Agriculture

Approved by the World Food and Agricultural Outlook and Situation Board

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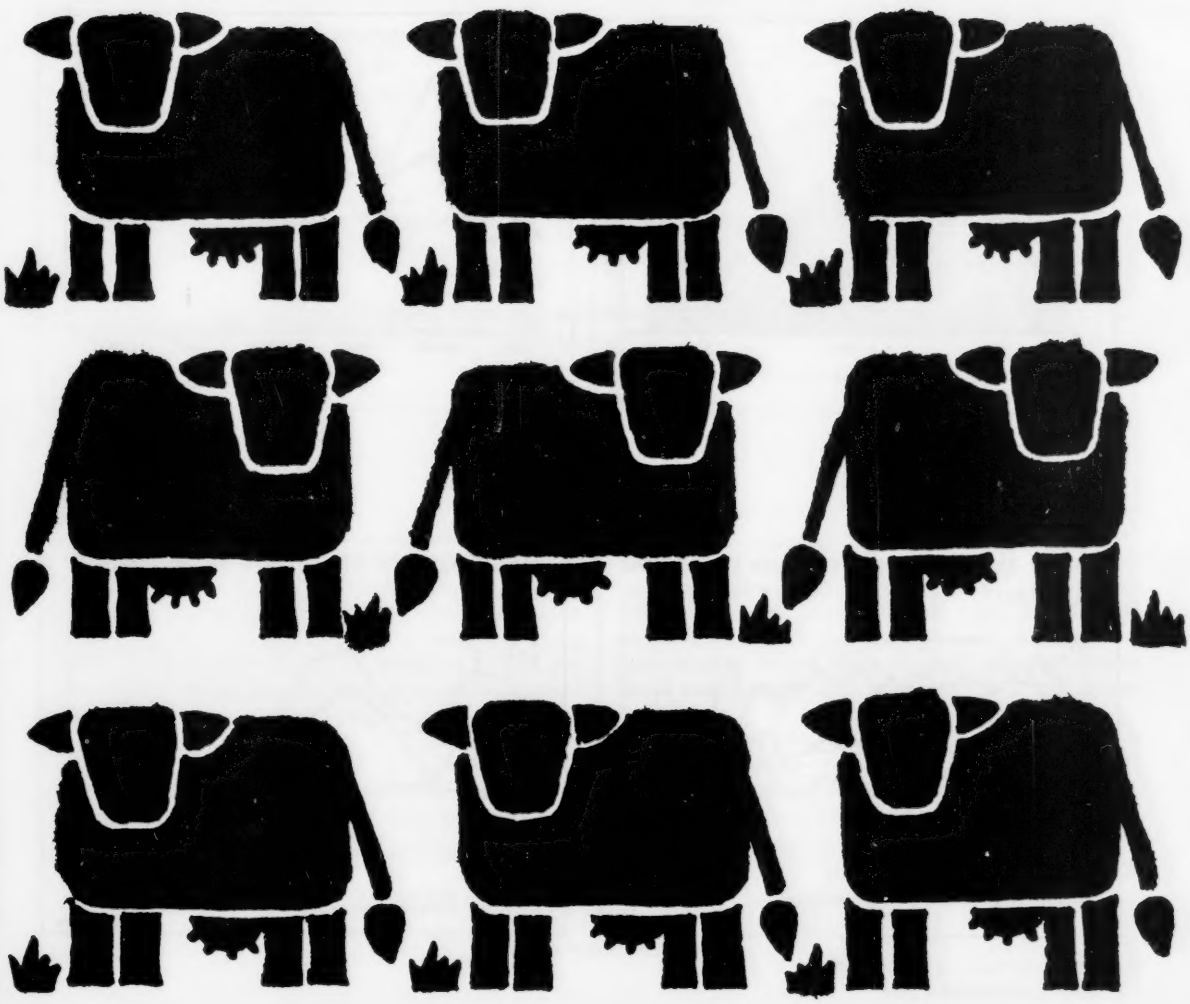
December 1978



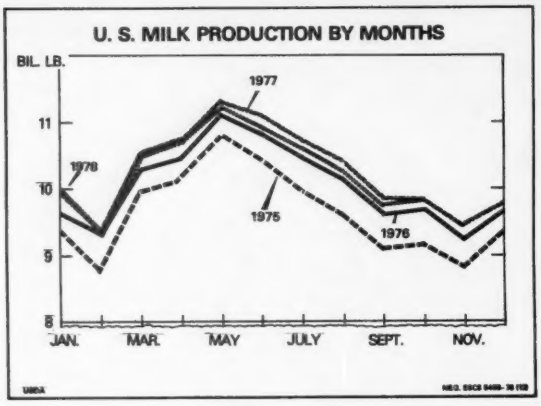
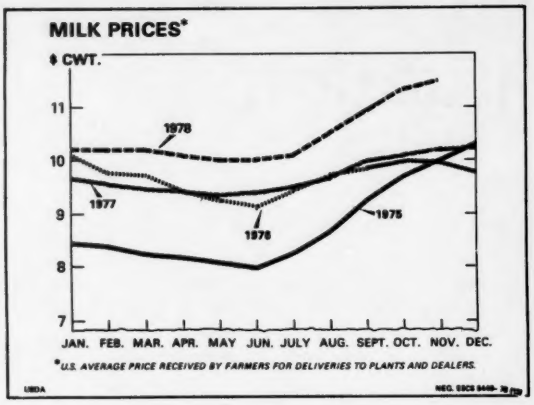


Figure 1



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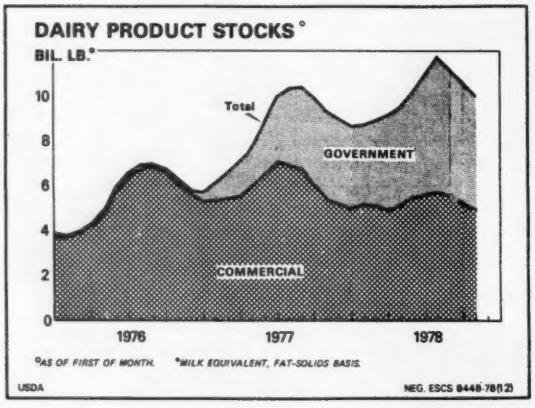

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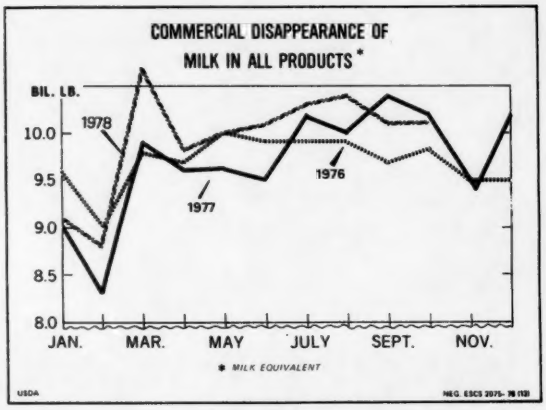

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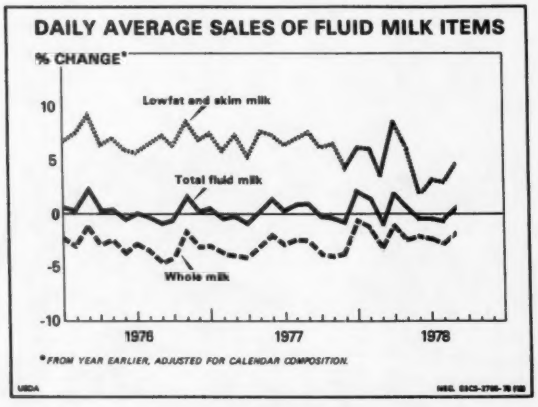

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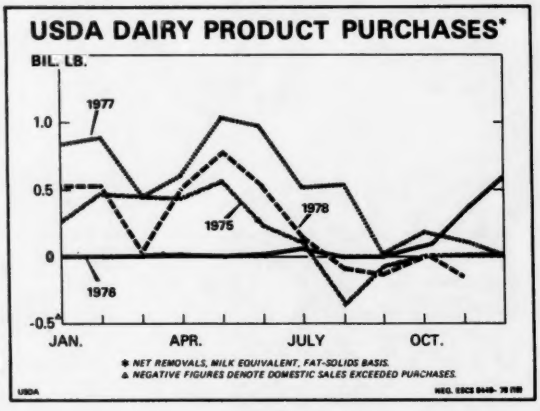

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SUMMARY

Rising farm milk prices have sparked a recovery in milk output and milk production probably will be higher than a year earlier by early 1979. Milk prices in 1979 will run well above this year while large feed supplies probably will keep feed price rises moderate. These relationships likely will stimulate concentrate feeding and gains in output per cow. But, still higher cull cow prices probably will result in declines in cow numbers as large as this year. Milk output in 1979 is expected to total slightly higher than the 122 to 122½ billion pounds in 1978.

Commercial use of milk and dairy products next year may be just slightly larger than the sharply increased use of this year. However, rebuilding of the current low commercial stocks will provide additional demand strength. USDA purchases under the price support program could be less than 1978's moderate quantities and dairy prices could show modest strength. However, the range of uncertainty is (as always) very wide; purchases could easily range from negligible to a half larger than in 1978.

Milk production in October was just barely less than the previous year, after 1-percent year-to-year declines last spring and summer. The most significant recovery occurred in the important Lake States. The 1-percent year-to-year decline in the

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U.S. dairy herd was very similar to earlier this year but output per cow posted a small gain.

Farmers received an average $11.50 per 100 pounds of milk in November, 13 percent higher than a year earlier and 15 percent higher than June. November manufacturing grade milk prices were about 5 percent above the current support price. Farm milk prices will decline seasonally in early 1979 but rebuilding of commercial stocks may keep prices above the support prices until well into the seasonal upturn in milk production. For all of 1979, farm milk prices likely will average 6 to 10 percent above this year.

Boosted by higher milk prices, 1978 cash receipts from dairying will exceed $12½ billion, up from $11.8 billion in 1977. Net income probably rose as well this year as increases in milk prices likely have exceeded rises in production costs. The income outlook for next year is for some further improvement.

Between late spring and early December, wholesale butter prices rose about 18 cents per pound, American cheese prices 14 cents, and nonfat dry milk prices about 6 cents per pound. After the seasonal crest, wholesale prices w"l trend lower this winter but may be somewhat unsettled, as the industry attempts to gauge the recovery in milk output, the impact on sales of the autumn price rises, and the amount of the April 1 adjustment in support prices.

Retail dairy prices in October were 4 percent higher than last May and 8 percent above a year earlier. Retail price increases probably have been brisk in November-December but will slow considerably in early 1979. Prices of dairy products at retail probably will average 6 to 9 percent higher next year.

American cheese producers this fall have used considerably more milk than a year ago, resulting in much less milk available for butter and nonfat dry milk. This pattern probably will continue in coming months but the diversion likely will slow. Supplies of milk available for manufacturing (just barely less than last year in September-October) likely will slightly exceed a year earlier in early 1979.

Total commercial use in September-October fell below last year's very strong levels, largely due to drops in butter and American cheese sales. Even so, commercial disappearance for all of 1978 probably will top 119 billion pounds, well above the previous record of 116.4 billion pounds. Next year, cheese sales will post an increase due to rising prices of other foods and rising consumer incomes, although the increase probably will be smaller than this year. Sales of fluid products and nonfat dry milk probably will be about steady and commercial disappearance of butter might slip.

With USDA donations about steady and a sizable increase in commercial use, 1978 per capita civilian consumption will be above last year. Per person use of milkfat will be the largest in 6 years while per capita consumption of milk solids-not-fat will be higher than most recent years.

On November 1, commercial stocks of both milkfat and solids-not-fat were substantially below the levels of the preceding 2 years. The partial recovery in milk output recently has slowed the seasonal declines but commercial holdings will still be small at yearend.

USDA purchases under the price support program in 1978 will total less than 3 billion pounds milk equivalent, down more than half from the heavy level of 1977. Even so, uncommitted inventories of butter and nonfat dry milk were still large on December 1.

Imports of dairy products have continued to run above a year earlier because of larger imports of nonquota cheese. Commercial exports have slipped but food-aid exports have been larger.

DAIRY SITUATION

SITUATION AND OUTLOOK

PRODUCTION

Milk Output Recovering

With the sharp rise in farm milk prices since last spring, milk production has recovered considerably this fall. Even though output in October still trailed a year earlier, the decline was the smallest since production slipped below year-earlier levels late last winter. With this recovery, 1978 milk production probably will total between 122 and 122½ billion pounds, down less than 1 percent from 1977 (table 1).

U.S. milk production

Month	1977	1978	Change
	Million pounds		*Percent*
January	9,914	9,988	+0.7
February	9,337	9,341	0
March	10,586	10,528	-0.5
April	10,743	10,686	-0.5
May	11,373	11,219	-1.4
June	11,021	10,928	-0.8
July	10,693	10,598	-0.9
August	10,397	10,259	-1.3
September	9,850	9,732	-1.2
October	9,844	9,818	-0.3
November	9,429		
December	9,770		
Total	122,957		

Milk production per cow resumed year-to-year growth in October, after running virtually the same during May-September. Output per cow has begun to respond to the quite favorable milk-feed price relationships, but the gain of less than 1 percent from October 1977 was still considerably less than typical increases.

The October decline from a year earlier in milk cow numbers was slightly more than 1 percent, very similar to those of the first 9 months of 1978. Slaughter cow prices in October were about $15 per 100 pounds higher than a year before and have continued to stimulate additional culling.

The most important strengthening in milk output occurred in the Lake States, where production was above a year earlier in October after being down more than 1 percent last summer. Year-to-year increases accelerated in the Southern Plains while milk output in the Northeast and the Mountain regions remained larger than last year.

Utility cow prices, Omaha

Month	1976	1977	1978
	Dollars per cwt.		
January	23.26	22.95	27.59
February	25.90	23.88	29.45
March	27.45	26.67	32.44
April	30.72	27.63	36.94
May	30.24	26.57	39.21
June	27.47	25.64	37.61
July	25.80	25.23	38.09
August	25.10	25.38	37.85
September	22.90	26.12	39.75
October	22.72	24.89	40.46
November	20.59	23.80	39.30
December	21.60	25.02	
Average	25.31	25.32	

Other regions had lower milk production than a year earlier. Among the 5 major dairy States, there was about 1 percent larger output in Wisconsin, Pennsylvania, and New York but substantial declines in California and Minnesota.

Production To Expand

After this year's readjustment, milk production in 1979 will again be in a position to expand. Farm milk prices during the first half of 1979 probably will average a tenth higher than a year earlier and likely will post substantial (although smaller) gains during the second half. Combined with prospective moderate feed price increases, these milk prices probably will trigger heavier concentrate feeding and increases in output per cow. The favorable milk-feed price relationships will also moderate declines in milk cow numbers.

Even so, year-to-year declines in milk cow numbers next year probably will be as large as in 1978. Cull cow prices likely will run above the high 1978 levels. In addition, beef cow-calf operations could be an attractive alternative for some Midwestern dairymen. Off-farm employment opportunities could continue to draw dairymen and dairy labor, although this factor probably is less important than a decade ago.

Milk production this winter and spring probably will be slightly above a year earlier. Output during the second half of 1979 will be heavily influenced by whether or not demand is strong enough to lift prices above the support price next summer, prospects for feed supplies and prices, the rate of

Table 1--Milk production and factors affecting supply, United States, selected years, 1955-78

Year	Milk cattle on farms, January 1 1/			Milk cows on farms, average during year	Milk production		Average prices received by farmers per 100 pounds		
	Milk cows and heifers that have calved	Milk cow replacements; heifers 500 pounds and over			Per cow	Total	All milk, wholesale	Milk, eligible for fluid market	Milk, manufacturing grade
		Total	Per 100 cows						
	Thou.	Thou.	No.	Thou.	Lb.	Mil. lb.	Dol.	Dol.	Dol.
1955	21,320	6,832	32.0	21,044	5,842	122,945	4.01	4.50	3.15
1960	17,650	5,686	32.2	17,515	7,029	123,109	4.21	4.69	3.25
1965	15,380	4,780	31.1	14,953	8,305	124,180	4.23	4.63	3.34
1966	14,490	4,450	30.7	14,071	8,522	119,912	4.81	5.17	3.97
1967	13,725	4,215	30.7	13,415	8,851	118,732	5.02	5.43	4.06
1968	13,115	4,080	31.1	12,832	9,135	117,225	5.24	5.67	4.22
1969	12,550	3,990	31.8	12,307	9,434	116,108	5.49	5.87	4.45
1970	12,091	3,880	32.1	12,000	9,751	117,007	5.71	6.05	4.70
1971	11,909	3,843	32.3	11,839	10,015	118,566	5.87	6.19	4.86
1972	11,776	3,828	32.5	11,700	10,259	120,025	6.07	6.38	5.08
1973	11,622	3,872	33.3	11,413	10,119	115,491	7.14	7.42	6.20
1974	11,297	3,941	34.9	11,230	10,293	115,586	8.33	8.66	7.13
1975	11,220	4,087	36.4	11,143	10,350	115,334	8.75	9.02	7.63
1976	11,087	3,958	35.7	11,055	10,879	120,269	9.66	9.93	8.56
1977	11,035	3,888	35.2	10,984	11,194	122,957	9.72	9.96	8.70
1978 2/	10,930	3,896	35.6	10,865	11,260	122,300	10.55	10.75	9.65

Year	Dairy ration cost		Milk cow cost		Grain and other concentrates fed to milk cows 3/			Dairy pasture feed condition, as percent of normal	Alfalfa hay prices	
	Value per 100 pounds	Milk-feed price ratio	Price received per head	Milk required to buy a cow	Total fed	Per cow	Per 100 pounds of milk produced		Received by farmers per ton	Paid by farmers per ton
	Dol.	Lb.	Dol.	Cwt.	Thou. tons	Lb.	Lb.	Pct.	Dol.	Dol.
1955	3.16	1.28	146	36	18,664	1,758	30.1	77	22.00	33.70
1960	2.92	1.45	223	53	19,821	2,259	32.2	82	21.00	31.60
1961	2.92	1.45	224	53	20,916	2,404	33.2	84	21.00	30.90
1962	2.95	1.40	221	54	21,617	2,533	34.3	80	21.40	30.60
1963	3.04	1.36	215	52	21,858	2,646	35.1	73	23.50	32.90
1964	3.03	1.38	209	50	22,464	2,800	35.9	73	24.00	32.60
1965	3.03	1.40	212	50	22,827	2,953	36.7	80	24.00	33.00
1966	3.15	1.53	246	51	22,569	3,000	37.6	78	24.70	33.40
1967	3.23	1.56	260	52	22,790	3,374	38.3	80	23.60	34.08
1968	3.10	1.70	274	52	22,886	3,519	39.1	83	23.00	32.94
1969	3.15	1.75	300	55	23,615	3,726	40.7	82	23.90	34.08
1970	3.28	1.74	332	58	24,870	3,979	42.4	81	24.70	34.69
1971	3.44	1.71	358	61	25,107	4,070	42.4	79	27.10	37.57
1972	3.52	1.73	397	65	25,162	4,298	41.9	80	31.45	40.15
1973	4.88	1.46	496	69	25,042	4,389	43.4	83	41.55	51.65
1974	6.23	1.34	500	60	24,586	4,384	42.6	75	52.58	63.58
1975	6.25	1.40	412	47	24,274	4,357	42.1	79	54.38	66.18
1976	6.31	1.53	477	49	25,083	4,545	41.7	70	60.81	72.16
1977	6.21	1.57	478	49	25,843	4,709	42.1	72	60.57	74.25
1978 3/	6.15	1.72	620	59	---	---	---	77	52.10	---

1/ Prior to 1965, estimated by Livestock Section, ERS.
2/ Preliminary or estimated.
3/ On farms where milk or cream was sold. Beginning 1966, data are for all farms where milk was produced.

increase in non-feed production costs, and the support price for the new marketing year (which under present legislation may range between 75 and 90 percent of parity). Total milk output is expected to be less than 1 percent larger than 1978's 122 billion pounds. However, the chance of a substantial increase is greater than the chance of a substantial decline, since output per cow might post a sharp gain.

Milk-Feed Price Relationships Very Favorable

Feed prices this autumn have been fairly strong in light of the record quantities of corn and soybeans being harvested. However, the year-to-year rise in feed prices has been overshadowed by the large increase in farm milk prices and milk-feed price relationships have remained quite good. In November, the difference in value between 100 pounds each of milk and concentrate ration was $5.34, about a fifth higher than a year earlier. Similarly, the November milk-feed price ratio stood at 1.86 (figure 7), up from less than 1.8 a year before and just slightly below the record of November 1971.

Milk-feed price ratio[1]

Month	1976	1977	1978
		Pounds	
January	1.65	1.51	1.69
February	1.58	1.46	1.70
March	1.58	1.45	1.68
April	1.53	1.42	1.62
May	1.49	1.40	1.60
June	1.43	1.43	1.59
July	1.44	1.52	1.64
August	1.50	1.65	1.76
September	1.51	1.76	1.81
October	1.56	1.79	1.86
November	1.60	1.76	1.86
December	1.55	1.72	
Average	1.53	1.57	

[1] Pounds of concentrate ration equal in value to 1 pound of milk.

In 1978, average returns over the value of concentrates fed per 100 pounds of milk probably will approach $8, up about 12 percent from last year. Other measures of milk-feed price relationships will also show substantial improvement. The 1978 average milk-feed price ratio probably will exceed 1.7 for the first time since 1972 and will be well above

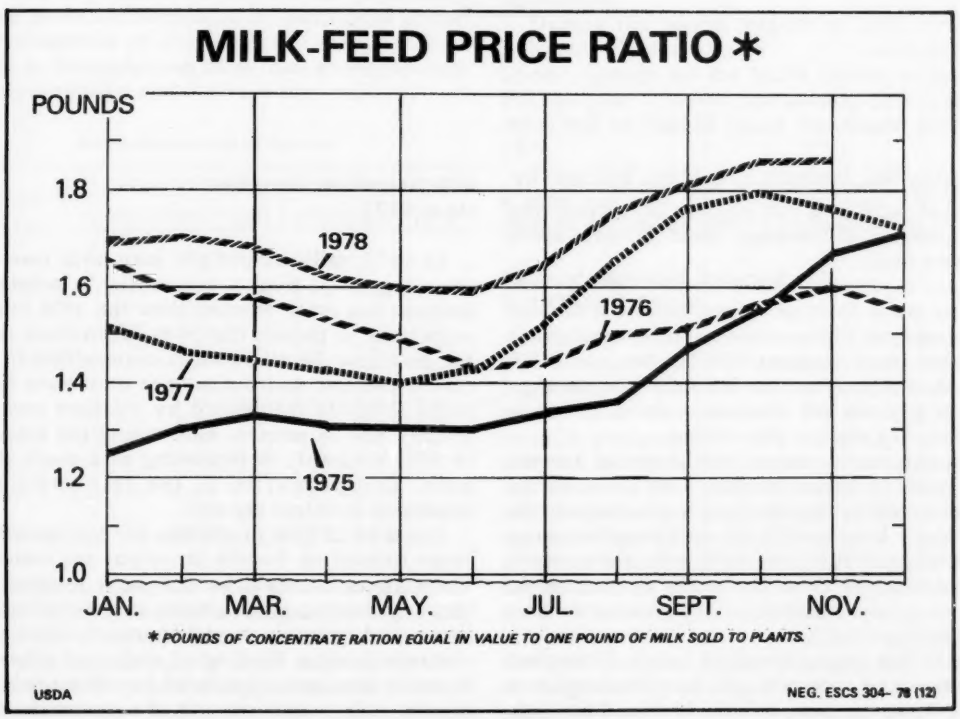

Figure 7

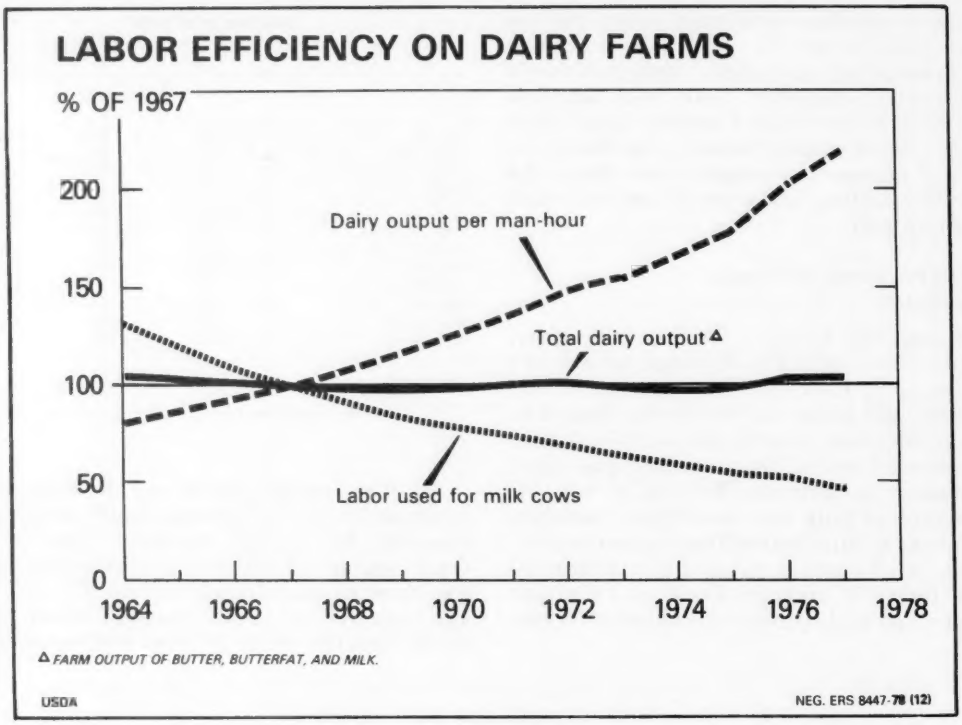

Figure 8

1977's 1.57. The difference in value between 100 pounds of milk and 100 pounds of concentrate ration probably will average about 90 cents above last year's $3.51.

In late November, No. 2 corn at Chicago was quoted at about $2.30 per bushel, up about 15 cents from a year ago. Meanwhile, soybean meal prices at Decatur stood at about $175 per ton, about $15 higher than a year earlier. Farmers paid an average $143 per ton for 16-percent dairy ration in November, $14 above a year earlier.

Although strong export and domestic demand might result in higher average feed prices during this barn-feeding season than a year earlier, the record-large harvests likely will keep feed price rises fairly modest. Combined with the expected higher milk prices, these feed prices would result in milk-feed price relationships next year even more favorable than this year.

Alfalfa hay prices remained low in November. Two consecutive large crops have boosted hay supplies while the much-reduced beef herd has lessened demand.

Milk Output Per Man-Hour Up in 1977

In 1977, milk output per man-hour rose more than 8 percent from a year earlier, a substantial increase but much smaller than the 1976 jump of more than 13 percent (figure 8). Meanwhile, output per man-hour for all livestock commodities in 1977 rose 8 percent and output per man-hour for all crops (heavily influenced by weather and crop yields) rose 18 percent. Milk output per man-hour in 1978 probably is increasing at a much slower pace, due primarily to the relatively slow expansion in output per cow.

Increases in milk production per cow have had a large impact on boosts in output per man-hour. These gains in output per cow have resulted from improved management, greater genetic potential of cows, and (possibly most important) heavier concentrate feeding. Feeding of grain and other concentrates has been substituted for other production inputs; milk output per unit of concentrate ration has trended downward.

The other major factor increasing milk output per man-hour has been the declining amount of labor per cow. In 1977, dairy farmers used an average of 7.4 minutes of direct labor daily to care for a milk cow, down 6 percent from a year earlier and 42 percent from 10 years before. These figures do not include labor used in producing feed, caring for calves and replacements, or general farm overhead. The drop in the labor used to care for milk cows has been accomplished primarily by adopting more capital intensive technology.

In 1977, more milk was produced than a decade earlier with less than half the amount of direct labor. Among major commodity groups during this time period, only poultry production has posted gains in output per man-hour approaching those in milk production.

PRICES AND INCOME

Farm Milk Prices Up An Eighth

After almost 2 years when the support price was the primary factor affecting farm milk prices, the combination of lower milk output, sharp gains in commercial use, and low commercial stocks brought prices up rapidly beginning last summer. These conditions contrasted with a year earlier, when heavy supplies of milk and dairy products limited seasonal increases in farm milk prices. Farmers received an average $11.50 per 100 pounds of milk in November, up more than an eighth from both a year earlier and the June seasonal low.

Milk prices received by farmers

Month	All sold to plants			Manufacturing grade		
	1976	1977	1978	1976	1977	1978
	Dollars per 100 pounds					
January	10.10	9.65	10.20	9.04	8.48	9.12
February	9.76	9.53	10.20	8.42	8.41	9.18
March	9.75	9.45	10.20	8.49	8.46	9.23
April	9.40	9.44	10.10	8.45	8.66	9.28
May	9.25	9.37	10.00	8.33	8.62	9.27
June	9.14	9.40	10.00	8.32	8.56	9.23
July	9.43	9.49	10.10	8.62	8.56	9.26
August	9.70	9.66	10.50	8.89	8.64	9.58
September	9.84	9.97	10.90	8.65	8.84	9.92
October	9.96	10.10	11.30	8.54	9.02	10.50
November	9.89	10.20	11.50	8.54	9.11	10.60
December	9.72	10.20		8.53	9.19	
Average	9.66	9.72		8.56	8.71	

Manufacturing grade milk prices continued to increase in November and averaged $10.60 per 100 pounds, up 16 percent from a year ago. Adjusted for fat test, manufacturing grade milk prices were about 5 percent above the support price in November.

Minimum Class I prices in Federal order markets will average about $12.54 per 100 pounds (for milk of 3.5 percent milkfat) in January, about $1.18 higher than August and up $1.65 from a year earlier. The Minnesota-Wisconsin price (the basic mover of Class I prices in Federal order markets) has been increasing rapidly this summer and fall in contrast to last year's slight seasonal rise.

In late summer, cooperatives announced higher Class I prices which more quickly reflected increases in manufacturing milk values. (Minimum Class I prices in Federal orders are based on the Minnesota-Wisconsin manufacturing grade milk price for the second preceding month). However, recent rises in Class I prices announced by cooperatives did not match the October-December increase of 85 cents per 100 pounds in minimum Federal order Class I prices. As a result, the estimated average over-order payment has dropped back down from the high of 50 cents in September to a more normal level of 37 cents during November. In the face of a 28-cent increase in Federal order Class I minimums for December, cooperatives in a number of markets announced 30-cent increases in their negotiated Class I prices, leaving the average over-order payment close to the November level. With another increase of 26 cents in Federal order Class I minimums for January, further increases by cooperatives can be anticipated.

During the fourth quarter of 1978, over-order payments should average 10 to 12 cents above the 28-cent average for the fourth quarter of last year. For the year, however, the average over-order payment will be slightly below the 36-cent average of 1977.

Farm milk prices will close out 1978 well above a year ago and, for the year, likely will average close to $10.55—up about 8½ percent from 1977.

Moderate Strength Expected in 1979 Milk Prices

In early 1979, milk prices will ease seasonally but the expected low commercial stocks at the beginning of the year may keep prices above the support level until well into the seasonal upswing in milk production. If 1979 milk output and commercial use develop as expected, purchases under the price support program could be fairly small and manufacturing grade milk prices could average somewhat above the support price. Farm prices of all milk probably will average 6 to 10 percent higher than in 1978, with the largest gains during the first half of the year. A substantial year-to-year increase is assured by the higher support prices. However, potential further increases will be limited by large USDA stocks of butter and nonfat dry milk.

The current support price must be adjusted on April 1 to reflect the estimated change in the prices paid index. At the beginning of the marketing year next October 1, the Secretary of Agriculture can, under current legislation, set the support price anywhere between 75 and 90 percent of parity. At lower support levels, the sell-back prices accompanying these support levels could have more impact on late 1979 milk prices than the support purchase prices.

1978 Cash Receipts Surpass $12½ Billion

Cash receipts from dairying during September-October were well above a year earlier as higher milk prices easily outweighed a less-than-1-percent decline in marketings during this period. The 10-percent increase in cash receipts during September-October followed an average year-to-year increase of 6 percent during the first 8 months of 1978. Total cash receipts for 1978 could easily surpass $12½ billion, up from the record $11.8 billion last year and up over $2½ billion in the last 3 years (table 2). In early 1979, gross cash income from milk sales likely will continue well above 1978, as higher milk prices and expected larger marketings both contribute.

The index of prices paid for production items has increased in recent months, after being relatively stable in May-August. The year-to-year increase in the index of production items (about 12 percent in October-November) has easily surpassed the increase in cash receipts from milk sales since mid-spring, due largely to higher prices for feeder livestock (which do not constitute a major cost for dairymen). Dairy concentrate prices held considerably above a year earlier in October-November. Hay prices were holding about the same as the relatively low year-earlier level, even though supplies are somewhat more plentiful. In 1978, increases in gross dairy income probably were slightly larger than the rise in milk production costs. With higher milk prices expected to outweigh moderate increases in prices of production items, net incomes to dairy enterprises likely will continue to be more favorable than a year earlier during the next several months and, possibly, during most of 1979.

Wholesale Dairy Prices To Slip

Wholesale dairy prices have increased sharply since July as impacts of lower milk production, brisk commercial use, and low commercial stocks have combined to provide the price strength (figure 9). However, price increases have been limited by the large USDA stocks of butter. Sales back to the industry have recently been made at 110 percent of the support purchase price.

Wholesale dairy product prices are expected to decline as holiday demand subsides, holiday school closings leave more milk temporarily available for manufacturing, and the seasonal increase in milk production occurs. While wholesale prices will trend lower this winter, they may be somewhat unsettled as the industry attempts to gauge the recovery in milk output, the impact on sales of the autumn price rises, and the amount of the April 1 adjustment in support prices. However, the expected low commercial stocks of dairy products at the start of 1979 may keep wholesale prices above the support level until well into the seasonal upswing in milk production.

Grade AA butter in Chicago in early December was quoted at almost $1.24 per pound, more than 12 cents above the support purchase price. For 40-pound blocks of American cheese at Wisconsin assembly points, the price of $1.17 per pound was about 11 cents above the support purchase price, while barrel cheese prices remained strong at almost $1.13 per pound. Nonfat dry milk prices had increased about 6 cents per pound since spring in the Central States area and were about 3 cents above the support price.

Edible dry whey prices in the Central States production area were reported at about 12 cents per pound in early December, well below the 19-cent peak of a year earlier. Expanding dry whey output and somewhat weak whey demand has led to the price declines and reportedly some edible whey powder is now being offered through animal feed channels as a means of reducing inventories.

Lactose prices have continued steady with some slowing in domestic production and anticipated strong sugar prices. Lactose prices in early December averaged about 26 cents per pound (Eastern area), about the same as mid-September. The casein market remains firm with a somewhat short supply and strong demand.

After rising sharply this summer and autumn (reflecting increased butterfat prices), wholesale ice cream prices in November were about 8 percent higher than in 1977. Manufacturers' selling prices for evaporated milk averaged $17.01 per case in November, up almost 12 percent from a year earlier.

The wholesale dairy price index, as reported by the Bureau of Labor Statistics (BLS), stood at 199.6 (1967=100) in November, up almost 13 percent from a year ago. This index likely will decline seasonally in the next few months.

Retail Prices Up

Retail prices of milk and dairy products have increased throughout the first 3 quarters of 1978, with the largest increases occurring in recent

Table 2--Milk marketings and cash receipts, United States, selected years, 1955-78 1/

Year	Milk used on farms where produced	Milk marketed by farmers				Cash receipts from milk marketed by farmers			
		Sold to plants and dealers		Retailed by farmers as milk and cream	Total	Milk sold to plants and dealers	Cream sold to plants and dealers	Retailed by farmers	Total
		As whole milk	As farm separated cream						
	Billion pounds					Billion dollars			
1955	14.6	91.0	14.7	2.7	108.3	3.6	0.3	0.3	4.2
1960	9.2	103.9	7.9	2.1	114.0	4.4	.2	.2	4.8
1965	6.0	112.7	3.7	1.8	118.2	4.8	.1	.2	5.0
1966	5.5	109.7	3.0	1.7	114.4	5.3	.1	.2	5.5
1967	5.2	109.4	2.4	1.8	113.6	5.5	.1	.2	5.7
1968	4.7	108.8	2.0	1.8	112.6	5.7	2/	.2	6.0
1969	4.3	108.5	1.6	1.7	111.8	6.0	2/	.2	6.2
1970	4.0	110.1	1.2	1.7	113.0	6.3	2/	.2	6.5
1971	3.8	112.2	1.0	1.6	114.8	6.6	2/	.2	6.8
1972	3.5	114.2	.8	1.5	116.5	6.9	2/	.2	7.1
1973	3.4	109.9	.7	1.5	112.1	7.9	2/	.2	8.1
1974	3.2	110.4	.4	1.5	112.4	9.2	2/	.3	9.4
1975	3.1	110.4	.3	1.6	112.3	9.7	2/	.3	9.9
1976	3.0	115.6	.2	1.5	117.3	11.2	2/	.3	11.4
1977 3/	2.8	118.4	.2	1.5	120.1	11.5	2/	.3	11.8
1978 4/	2.7	117.9	.2	1.5	119.6	12.5	2/	.3	12.7

1/ Totals may not add due to rounding.
2/ Less than $50 million.
3/ Preliminary.
4/ Estimated.

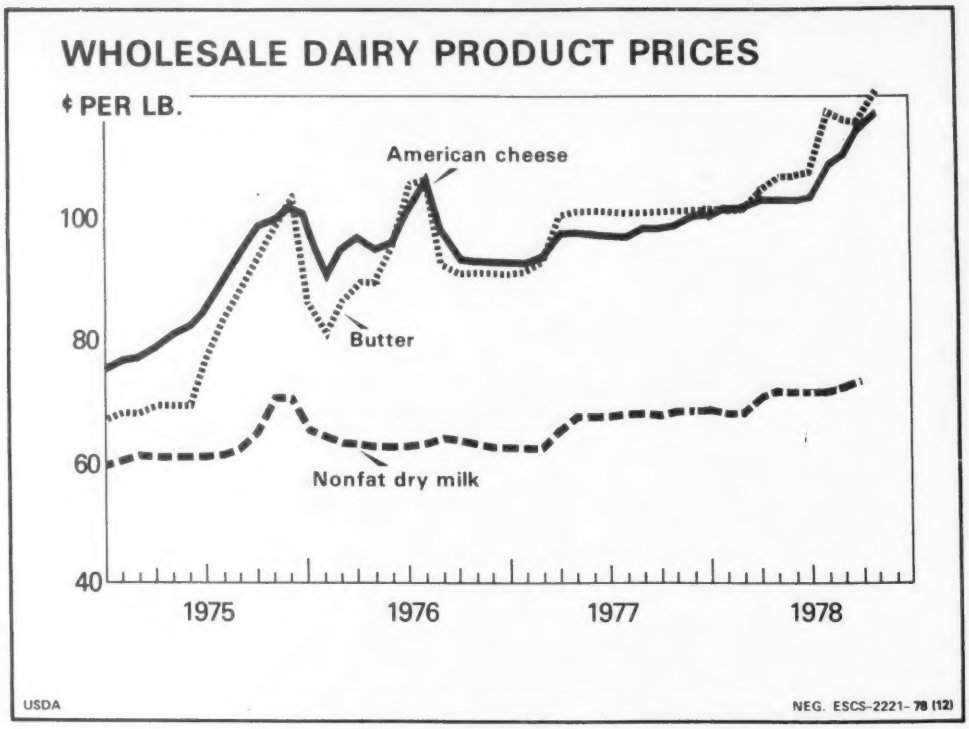

Figure 9

months as retail prices began to reflect the sharply higher wholesale prices. Retail prices (particularly for fluid milk) probably are still rising rapidly, as recent wholesale dairy product prices are being more fully reflected. Howeve, the rate of increase will slow considerably in early 1979. While 1978 data may not be completely comparable with earlier years due to changes in the reported BLS price series (see discussion in DS-372, October 1978), the BLS index of retail dairy prices stood at 191.1 (1967=100) in October, up about 8 percent from last year and up about 4 percent since May of this year (figure 10). Meanwhile, the index of all food items was up almost 12 percent from last year and the Consumer Price Index for all items was up about 9 percent.

During the third quarter of 1978, prices of manufactured dairy products increased more rapidly than did prices of fluid milk products. However, this pattern likely has been reversed during the fourth quarter as fluid prices reflect changes in the Minnesota-Wisconsin price series.

For all of 1978, prices of milk and dairy products in the grocery store likely have averaged 6 to 7 percent above 1977. With both farm milk prices and marketing costs likely to increase next year, retail dairy prices in 1979 are expected to increase 6 to 9 percent from 1978.

Retail dairy product prices

Item	Index base	Oct. 1977[1]	Dec. 1977	Mar. 1978	Oct. 1978
Consumer Price Index[2]	1967=100	184.5	186.1	189.8	200.9
All food[2]	1967=100	194.4	196.3	204.2	216.8
All dairy products[2]	1967=100	176.2	176.9	179.3	191.1
Fluid milk and cream	12/77=100	—	100.0	101.4	107.8
Whole milk	1967=100	163.4	163.7	166.3	176.5
Other	12/77=100	—	100.0	100.7	107.6
Manufactured dairy products	12/77=100	—	100.0	101.3	108.3
Butter	1967=100	165.8	167.8	170.3	189.3
Cheese	12/77=100	—	100.0	101.3	107.8
Frozen desserts	12/77=100	—	100.0	100.9	108.0
Other	12/77=100	—	100.0	102.1	107.0

[1] May not be completely comparable. [2] For all urban consumers starting January 1978.

Table 3--Utilization of milk supply, United States, selected years, 1955-78 1/

Year	Fluid	Butter, net	Cheese			Evaporated and condensed whole milk	Dry whole milk	Frozen dairy products, net	Other factory products	Total factory products 2/	Miscellaneous 3/
			American	Other	Creamed cottage						
	Billion pounds										
1955	49.1	28.0	10.1	3.5	4/	6.3	.8	8.2	1.2	58.0	1.2
1960	53.0	29.4	9.7	3.7	1.0	5.5	.7	9.5	.4	59.8	1.2
1965	55.4	28.5	11.5	4.3	1.0	4.6	.7	10.6	.6	61.8	1.2
1966	55.4	23.7	12.2	4.5	1.0	4.7	.7	10.5	.6	57.9	2.5
1967	54.0	26.1	12.7	4.5	1.0	4.0	.5	10.5	.3	59.8	1.2
1968	53.7	24.9	12.7	4.7	1.1	3.9	.6	11.0	.4	59.2	-.2
1969	52.8	23.7	12.7	4.9	1.2	3.9	.5	11.0	.4	58.3	1.0
1970	52.0	23.9	14.2	5.3	1.3	3.3	.5	11.0	.5	60.0	1.5
1971	51.9	23.9	15.1	5.8	1.3	3.2	.5	11.0	.7	61.6	1.5
1972	53.2	22.7	16.4	6.4	1.3	3.1	.6	11.0	.8	62.3	1.1
1973	52.4	18.6	16.8	6.8	1.1	2.9	.6	11.1	.7	58.7	1.9
1974	50.5	19.3	18.6	7.1	1.0	2.8	.5	11.2	.8	61.3	.7
1975	51.1	19.9	16.5	7.4	1.0	2.7	.5	11.9	.7	60.5	.8
1976	51.5	19.4	20.6	8.2	1.1	2.5	.6	11.6	.7	64.7	1.4
1977 5/	51.4	21.9	20.5	8.4	1.1	2.4	.5	11.5	.7	66.9	1.9
1978 6/	50.6	19.8	21.1	9.1	1.1	2.4	.5	11.7	.7	66.4	2.8

1/ Total supply includes milk marketed by farmers, net imports of ingredients such as frozen cream, "ice cream", and butterfat-sugar mixtures, and net changes in storage cream.

2/ May not add due to rounding.

3/ Residual, including miscellaneous minor uses and any inaccuracies of independently determined use items.

4/ Included in other factory products.

5/ Preliminary.

6/ Estimated.

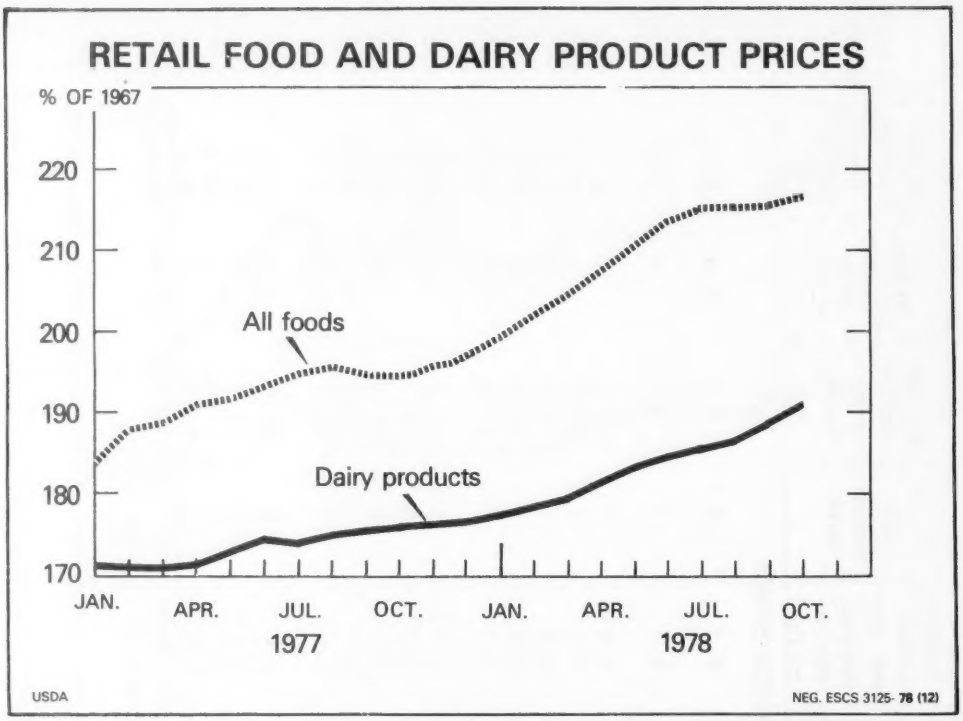

Figure 10

UTILIZATION

Cheese Production Boosted

Output of American cheese moved above a year earlier in June and the year-to-year increases have accelerated in recent months. October production was up 9 percent from last year to record levels and weekly data indicate an increase of 15 percent in November. American cheese plants have held a wholesale price advantage relative to butter-powder operations and the low commercial stocks have meant that a larger proportion of sales has had to come from current production. In addition, the absence of USDA cheese stocks to fall back on has made cheese producers more aggressive competitors for available milk supplies. October's 9-percent rise in production of other cheese varieties marked the fifteenth consecutive month of increases from a year earlier.

Since supplies of milk available for manufacturing in September-October were slightly less than the prior year, the increases in cheese output sharply reduced production of butter and nonfat dry milk. Butter output in October was 16 percent less than the previous year and a slightly greater decline was recorded in November. The drops in nonfat dry milk production were larger; October output was about 30 percent smaller than a year earlier.

Among other products, output of whey products was up sharply from a year earlier in September-October. In addition to the larger supply of liquid

Production of selected manufactured dairy products, 1977-78

Item	Jan.-Oct.		Change from year earlier	
	1977	1978[1]	1977	1978[1]
	Million pounds		*Percent*	
Butter	914.6	855.1	+13.1	-6.5
Cheese:				
American	1,746.8	1,768.2	+.1	+1.2
Other	1,081.7	1,172.0	+3.0	+8.3
Cottage, creamed	744.9	745.9	+0.2	+0.1
Canned milk	713.0	665.6	-12.4	-6.6
Dry whole milk	60.2	62.0	-11.3	+3.0
Ice cream (Mil. gal.)	694.5	705.9	-1.6	+1.6
Milk equivalent[2]	56,294	55,560	+4.2	-1.3
Nonfat dry milk	962.9	831.5	+20.6	-13.6

[1] Preliminary. [2] Total all reported manufactured products.

Table 4--Commercial disappearance: Total milk, annual and by quarters, 1976-78 1/

Item	1976	1977					1978 2/				
		By quarters				Annual	By quarters				Annual
		1st	2nd	3rd	4th		1st	2nd	3rd	4th	
	Billion pounds										
Production	120.3	29.8	33.1	30.9	29.0	123.0	29.9	32.8	30.6		
Farm use	3.0	.7	.7	.7	.7	2.8	.7	.7	.7		
Marketings	117.3	29.1	32.4	30.2	28.3	120.1	29.2	32.1	29.9		
Beginning commercial stocks	3.7	5.3	5.5	7.1	6.0	5.3	4.9	4.8	5.6		
Imports	1.9	.5	.4	.4	.7	2.0	.5	.4	.5		
Total supply	123.0	34.9	38.3	37.7	35.0	127.4	34.6	37.3	36.0		
Ending commercial stocks	5.3	5.5	7.1	6.0	4.9	4.9	4.8	5.6	5.2		
Net removals	1.2	2.1	2.6	1.1	.3	6.1	1.2	1.9	-.1		
Commercial disappearance Actual	116.4	27.2	28.6	30.6	29.8	116.4	28.6	29.8	30.8		
Percent change 3/	+2.3	4/-2.8	-3.4	+3.5	+3.6	0	+5.1	+4.3	+.7		

1/ Milk equivalent, fat solids basis. Totals may not add due to rounding. 2/ Preliminary. 3/ From year earlier using unrounded data. 4/ On a daily average basis.

Table 5--Commercial disappearance: Selected dairy products, United States, annual 1969-77, by quarters, 1977-78

Year and quarter	Butter 1/	Cheese		Nonfat dry milk	Canned milk	Frozen products 3/
		American 2/	Other			
	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. gal.
1969	921.9	1,281.0	861.6	1,042.1	1,376.1	1,092.2
1970	898.2	1,398.0	909.1	983.2	1,213.8	1,097.3
1971	847.1	1,454.8	987.0	981.8	1,186.9	1,102.4
1972	885.4	1,595.7	1,127.8	919.2	1,102.6	1,108.6
1973	855.6	1,677.1	1,210.2	1,110.1	1,056.7	1,118.6
1974	929.9	1,780.6	1,276.5	809.9	999.5	1,128.0
1975	951.0	1,717.1	1,331.9	697.0	923.9	1,183.9
1976	919.0	1,920.9	1,458.0	719.2	899.0	1,154.0
1977	859.2	1,958.1	1,512.3	681.6	799.2	1,147.4
1977 - 1st	208.7	464.8	347.1	202.5	203.9	246.0
2nd	166.1	482.5	369.6	127.8	183.0	327.3
3rd	233.5	486.1	377.2	185.6	183.7	342.3
4th	251.1	524.4	417.8	165.8	228.8	231.9
1978 - 1st	237.3	530.1	386.3	182.5	194.8	243.7
2nd	205.6	520.3	385.9	135.2	176.7	329.5
3rd	227.0	514.8	398.4	195.0	162.3	345.6
4th						
	1977-78 percent change					
	Percent					
1st	+13.7	+14.0	+11.3	-9.9	-4.5	-.9
2nd	+23.8	+7.8	+4.4	+5.8	-3.4	+.7
3rd	-2.8	+5.9	+5.6	+5.1	-11.6	+1.0
4th						

1/ Imports include butter equivalent of butteroil. 2/ Imports include Colby cheese; stocks do not include processed cheese. 3/ Excludes Mellorine.

Wisconsin out-of-state milk shipments

Month	1977		1978	
	Loads	Volume	Loads	Volume
	Number	*Thousand pounds*	*Number*	*Thousand pounds*
January	206	9,682	206	9,682
February	163	7,661	314	14,758
March	59	2,773	239	11,233
April	6	282	183	8,601
May	1	47	154	7,238
June	28	1,316	57	2,679
July	85	3,995	121	5,687
August	40	1,880	119	5,593
September	491	23,077	475	22,325
October	347	16,309	191	8,977
November	396	18,612	276	12,972
December	292	13,724		
Total	2,114	99,358		

whey available, the higher whey product prices since the summer of 1977 have encouraged greater processing of liquid whey. Output of dry whole milk and canned milk in September-October was larger than last year.

Supplies of milk available for manufacturing in coming months probably will move slightly above a year earlier as milk production expands. Cheese producers probably will continue to attract a larger share of the milk supply in order to rebuild commercial stocks as well as to meet the expected increased commercial use. Butter-powder operations will utilize less whole milk than a year earlier, since nonfat dry milk probably will be in a surplus condition and butter stocks can be rebuilt from the seasonally large supplies of residual cream coming from the fluid industry. Even so, the diversion of milk from butter-powder to American cheese production may slow in coming months.

Changes in dairy sales from year earlier

Item	Change		
	Jan.-Mar.	Apr.-June	July-Oct.
	Percent		
Total milk[1]	+5.1	+4.3	+0.2
Manufactured products:			
American cheese	+14.0	+7.8	+1.3
Other cheese	+11.3	+4.4	+7.0
Cottage cheese[2]	0	+2.1	+1.6
Butter	+13.7	+23.8	-4.7
Ice cream	0	+.9	+3.2
Ice milk	-4.0	+.5	+1.3
Canned milk	-4.5	-3.4	-3.2
Nonfat dry milk	-9.9	+5.8	+1.4
Fluid products:	+0.9	+0.7	-0.5
Whole milk	-1.6	-2.1	-2.6
Skim and lowfat milk	+5.4	+5.6	+3.6
Cream and mixtures	-2.0	-2.4	[3] -4.3

[1] On a milk equivalent, fat-solids basis. [2] Creamed and low-fat. [3] July-Sept.

Commercial Use Slows

Substantial rises in retail dairy prices since last spring resulted in total commercial use of milk and dairy products in September-October more than 2 percent below the strong readings of a year earlier (table 4). Most of the decline was due to smaller use of butter and American cheese (table 5). These declines from a year earlier in commercial use do not necessarily signal a significant weakening in demand (compared with earlier this year) in light of the rapidly rising prices and the fact that the year-earlier data now reflect the expansion in demand. Demand for dairy products has been bolstered by rising prices for most other foods (especially meat) and increasing consumer incomes (table 6).

Commercial use in 1978 is expected to top 119 billion pounds milk equivalent, well above the previous record high of 116.4 billion pounds in 1977. Since 1970, commercial use has trended upward at the rate of about 1 percent a year (slightly faster than the rate of population growth). However, the prevailing pattern has been a strong increase one year followed by little or no growth the next year.

Commercial disappearance of butter in September-October was a tenth below a year earlier while American cheese sales were down about 8 percent. Use of other cheese varieties was 5 percent larger than the previous year. However, butter sales for all of 1978 probably will be 4 to 6 percent larger than 1977, while commercial disappearance of both American and other cheese will be up about 5 to 6 percent.

After small increases in early 1978, fluid milk sales since then have remained very close to a year earlier. For all of 1978, sales of fluid products probably will total just barely more than last year.

Commercial disappearance of nonfat dry milk in September-October was less than the prior year but about the same as the average of the first 8 months of 1978. The annual total could be close to 1977's 681 million pounds.

Among other products, use of canned milk was close to a year earlier in September-October. More creamed cottage cheese, lowfat cottage cheese, ice cream, and other frozen desserts than a year earlier was sold in September-October.

Although the higher retail dairy prices may hold commercial use to only a slight increase from 1978's record, demand for dairy products in 1979 probably will again be bolstered by rises in consumer incomes and higher retail prices for most other foods. Cheese sales could post a relatively small gain. Although retail margarine prices are expected to rise, butter sales could slip. Fluid milk sales probably will be close to this year and commercial disappearance of nonfat dry milk could remain near the low levels of 1976-77.

Table 6--Factors influencing and indicative of the demand for milk and dairy products, United States, selected years, 1960-78

Year	Total population July 1 (including Armed Forces overseas)	Total civilian employment	Per capita disposable income		Civilian per capita disappearance					Retail price indexes		
					Milk equivalent		Milk solids					
			Actual	Deflated by consumer price index 1/	Fat-solids basis	Calcium content basis	Milkfat	Solids-not-fat	Margarine	Consumer price	All foods	Dairy products
	--- Million ---		--- Dollars ---		---------- Pounds ----------					---- 1967=100 ----		
1960	180.7	65.8	1,934	2,180	653	512	24.5	41.4	9.4	88.7	88.0	88.4
1965	194.3	71.1	2,430	2,571	620	505	22.9	40.6	9.9	94.5	94.4	90.0
1966	196.6	72.9	2,597	2,672	604	503	22.3	40.3	10.5	97.2	99.1	95.8
1967	198.7	74.4	2,740	2,740	581	494	21.4	39.5	10.5	100.0	100.0	100.0
1968	200.7	75.9	2,930	2,812	577	499	21.2	39.7	10.8	104.2	103.6	103.3
1969	202.7	77.9	3,111	2,833	569	497	20.9	39.6	10.8	109.8	108.9	106.7
1970	204.9	78.6	3,348	2,879	562	486	20.6	39.8	11.0	116.3	114.9	111.8
1971	207.0	79.1	3,588	2,958	557	490	20.4	39.8	11.1	121.3	118.4	115.3
1972	208.8	81.7	3,837	3,062	561	479	20.6	39.6	11.3	125.3	123.5	117.1
1973	210.4	84.4	4,285	3,219	555	477	20.4	39.8	11.3	133.1	141.4	127.9
1974	211.9	85.9	4,646	3,146	544	471	20.0	38.2	11.3	147.7	161.7	151.9
1975	213.6	84.8	5,088	3,156	546	469	20.1	38.0	11.2	161.2	175.4	156.6
1976	215.1	87.5	5,504	3,228	548	486	20.1	38.7	12.2	170.5	180.8	169.3
1977	216.8	90.5	6,009	3,311	552	482	20.1	38.3	11.6	181.5	192.2	173.9
1978 2/	218.5	94.2	6,635	3,400	560	488	20.5	38.7	11.6	3/194.0	3/210.0	3/183.7

1/ 1967 dollars.
2/ Preliminary or estimated.
3/ Ten-month average.

If a significant slowing in general economic activity were to occur next year, commercial use of dairy products might be reduced. The impact would be the greatest on cheese sales and nonretail butter use. Similar effects would occur if consumers shift spending from food to nonfood items or savings.

Larger Sales Boost Per Capita Use

The boost in 1978 commercial use of milk and dairy products raised per capita civilian consumption, since domestic donations from USDA supplies were similar to the previous year (table 7). Greater use of butter and cheese probably resulted in an almost 2-percent rise in per person consumption of milkfat and the 1978 reading likely was the most since 1972. Per capita consumption of milk solids-not-fat probably posted a 1-percent increase and was larger than most recent years. The increase in solids-not-fat use was trimmed by a small decline in nonfat dry milk consumption.

Cheese use in 1978 probably was about a pound per person larger than last year's 16.4 pounds. Per capita consumption of butter likely was slightly greater than the 2 previous years. Per capita use of whey products is expected to also have been larger but consumption of ice cream and cottage cheese could have been similar to 1977. Per person use of all fluid milk and cream probably slipped, as gains in consumption of lowfat milks were outweighed by declines in whole milk use. Per capita consumption of canned milk also declined (figure 11).

In 1979, changes in per capita consumption probably again will reflect changes in commercial use, since USDA supplies are expected to be sufficient to sustain donations similar to the prior 2 years. Per capita use of milkfat could be down just slightly from this year but consumption of milk solids-not-fat could post a slight gain.

Commercial Stocks Small

Commercial stocks of dairy products were low on November 1, although the seasonal reduction has slowed with the recent partial recovery in milk output. Industry holdings of milkfat on November 1 were down 8 percent from a year earlier and a fifth from 2 years ago. Commercial stocks of milk solids-not-fat were 9 percent less than November 1, 1977 and 26 percent less than 2 years earlier. These low holdings have bolstered wholesale prices, and

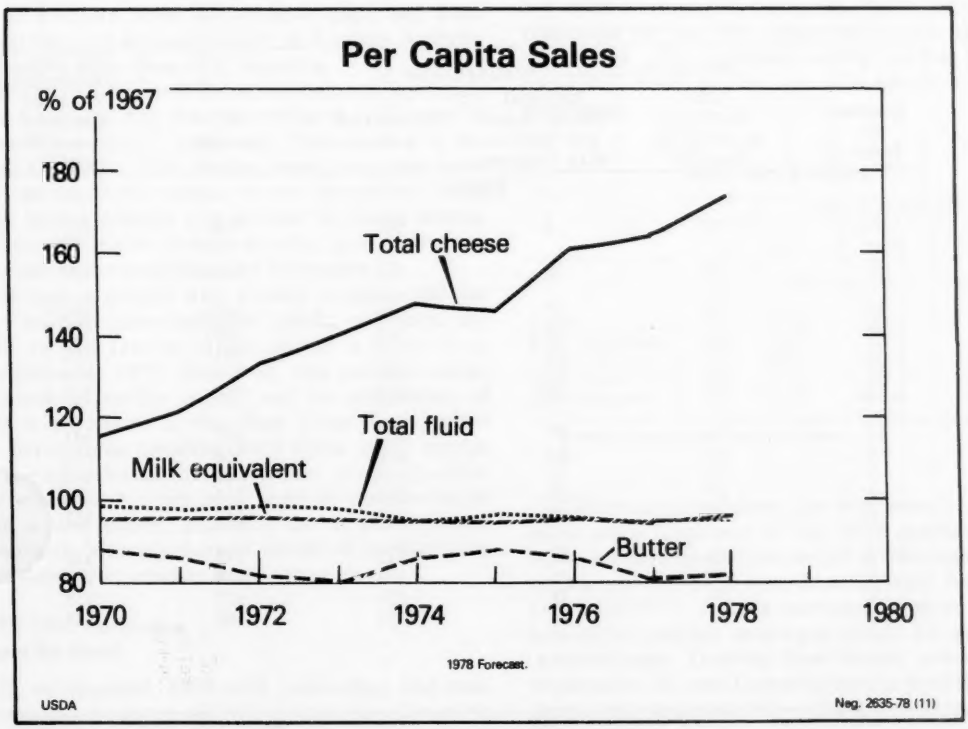

Figure 11

Table 7--Milk equivalent: Domestic civilian disappearance, commercial and noncommercial sources, total and per capita, United States, 1955, 1960, and 1965-78

Year	Civilian disappearance					Total military utilization 2/	Consumption excluding donations from USDA supplies		
	Consumed on farms 1/	USDA donations to civilian channels	National School Lunch and Special Milk Programs	Commercial sources	All sources		Civilian	Military	Total
	Million pounds								
1955	11,359	3,102	1,394	98,697	114,552	3,329	111,450	2,627	114,077
1960	6,610	2,040	2,455	105,259	116,364	2,532	114,324	2,228	116,552
1965	3,913	3,593	3,215	107,978	118,699	2,819	115,106	2,387	117,493
1966	3,492	1,129	3,311	108,804	116,736	2,376	115,607	2,376	117,983
1967	3,152	3,113	3,338	103,812	113,415	2,117	110,302	2,117	112,419
1968	2,841	4,114	3,376	103,332	113,663	3,295	109,549	2,186	111,735
1969	2,570	4,545	3,435	102,682	113,232	2,696	108,687	2,051	110,738
1970	2,306	4,187	3,462	103,257	113,212	2,419	109,025	1,788	110,813
1971	2,117	4,526	3,494	103,782	113,919	2,031	109,393	1,608	111,001
1972	1,914	3,906	3,500	106,563	115,883	1,671	111,977	1,258	113,235
1973	1,766	3,521	3,500	106,721	115,508	1,257	111,987	1,257	113,244
1974	1,643	1,459	3,500	107,376	113,978	1,137	112,519	1,137	113,656
1975	1,505	2,296	3,500	108,057	115,358	1,075	113,062	1,075	114,137
1976	1,404	478	3,500	111,362	116,744	1,013	116,266	1,013	117,279
1977	1,296	2,986	3,500	110,705	118,487	996	115,501	996	116,497
1978 3/	1,200	2,787	3,500	113,786	121,273	998	118,486	998	119,484

	Per capita civilian disappearance 4/					Civilian consumption excluding donations from USDA supplies
	Consumed on farms 1/	USDA donations to civilian channels	National School Lunch and Special Milk Programs	Commercial sources	All sources	
	Pounds					
1955	70	19	9	608	706	687
1960	37	11	14	591	653	642
1965	20	19	17	564	620	601
1966	18	6	17	563	604	598
1967	16	16	17	532	581	565
1968	14	21	17	525	577	556
1969	13	23	17	516	569	546
1970	11	21	17	512	562	541
1971	10	22	17	508	558	536
1972	9	19	17	516	561	542
1973	8	17	17	513	555	538
1974	8	7	17	512	544	537
1975	7	11	17	511	546	535
1976	7	2	16	523	548	546
1977	6	14	16	516	552	538
1978 3/	6	13	16	526	560	548

1/ Includes a small amount of farm-churned butter sold. 2/ Includes any quantities used by military in civilian feeding programs abroad. 3/ Preliminary. 4/ Aggregate in each category divided by total civilian population.

Dairy product stocks

Item	Nov. 1, 1976	Nov. 1, 1977	Nov. 1, 1978
	Million pounds		
Commercial:			
Butter	57.4	38.3	26.1
American cheese	434.9	388.5	365.9
Other cheese	65.9	65.3	76.1
Nonfat dry milk	104.8	68.0	54.7
Milkfat	220.0	188.4	173.0
Solids-not-fat	284.7	232.1	211.4
Milk equivalent	6,288	5,402	4,953
Government:			
Butter	3.2	157.1	221.5
American cheese	.8	65.5	41.8
Nonfat dry milk	396.8	620.2	584.9
Milkfat	2.8	147.6	191.7
Solids-not-fat	382.0	616.8	575.6
Milk equivalent	74	3,892	4,987

rebuilding of commercial stocks will add to the demand for dairy products during the first half of 1979. However, the recovery in milk output and easing in commercial use indicate that commercial stocks on January 1 may not be as low as earlier anticipated.

Commercial butter stocks on November 1 were almost a third smaller than a year earlier and were the second smallest in 6 years. However, the seasonal decline from the summer high has been relatively small—partially due to the August-September sales from CCC supplies.

Stocks of American cheese in commercial hands were 6 percent less than November 1, 1977 and 16 percent less than 2 years ago. Since cheese is not available from USDA stocks, these low stocks have been an important reason for the diversion of milk from butter-powder operations to cheese plants. Unlike American cheese stocks, stocks of other varieties were record-high for November 1.

Dropping output and steady commercial use have reduced manufacturers' stocks of nonfat dry milk to low levels—down about a fifth from November 1, 1977. However, the reduced usage (relative to earlier years) and the persistence of surplus conditions on the West Coast have limited the price rises resulting from these small stocks. On the other hand, manufacturers' stocks of edible dry whey on November 1 were 80 percent larger than a year earlier, primarily due to sharp boosts in output. Manufacturers' stocks of canned milk were somewhat smaller than a year earlier.

1979 CCC Purchases Could Be Small

If, as expected, 1979 milk production and commercial use both are slightly larger than this year, rebuilding of commercial stocks would result in smaller purchases under the price support program than the moderate 1978 level of about 2.8 billion pounds milk equivalent. However, the range of uncertainty is (as always) very wide; purchases could easily range from negligible to a half larger than in 1978.

After sizable purchases during the first half of 1978, removals of butter dried up in early summer. About 12 million pounds were bought back by the industry in August-September and another 7 million pounds after wholesale prices reached the increased sell-back price in November. After these sales for unrestricted use, CCC net removals for the first eleven months of 1978 were 115 million pounds, just slightly more than half the year-earlier level. An additional 2 million pounds were sold during the first week of December. American cheese purchases were fairly small during January-November, totaling just over a fourth as large as a year earlier. The January-November milk equivalent total was 2.8 billion pounds, less than half the year-earlier figure but larger than during 1973-76.

Purchases of nonfat dry milk declined sharply this summer but small amounts were bought this autumn (predominately on the West Coast). Through November, about 282 million pounds of powder were purchased this year, down roughly a third from a year earlier. Net removals of nonfat dry milk were proportionately larger than butter removals for the fifth consecutive year, although nonfat dry milk purchases during the last 2 years have not been badly out of line with butter purchases.

USDA dairy purchases[1]

Item	January-November		
	1977	1978	Change
	Million pounds		*Percent*
Butter	221.8	115.1	-48.1
American cheese	148.1	39.7	-73.2
Nonfat dry milk	441.4	281.5	-36.2
Evaporated milk	14.6	16.3	+11.6
Milk equivalent	6,074	2,804	-53.8

[1] Deliveries minus unrestricted sales.

USDA removed from the commercial market more than 2 percent of the 1978 marketings of milkfat and almost 3 percent of marketings of milk solids-not-fat; both were down sharply from 1977. During 1970-77, surplus purchases of both milk fat and solids-not-fat averaged about 3½ percent of marketings. During the fiscal year ended September 30, net Government expenditures on dairy price supports and related programs totaled $451 million, down more than a third from the $714 million a year earlier (tables 8 and 9).

Table 8 --Net government expenditures on dairy support and related programs, fiscal years, 1950-78

Year beginning July 1	Net support purchases 1/	Military milk 2/	Section 32 3/	Sections 709 and 4(a) 4/	Export assistance 5/	Total (excluding special milk)	Special milk program 6/
	Million dollars						
1949-50	170.5	---	17.6	---	---	188.1	---
1950-51	7/-49.1	---	8/-.9	---	---	7/-50.0	---
1951-52	1.6	---	7.5	---	---	9.1	---
1952-53	274.9	---	25.1	---	---	300.0	---
1953-54	400.4	---	74.0	---	---	474.4	---
1954-55	228.7	4.3	24.4	---	---	257.4	22.2
1955-56	237.9	7.3	39.0	---	---	284.2	48.2
1956-57	239.1	16.4	75.6	---	---	331.1	61.0
1957-58	205.9	30.4	123.7	---	---	360.0	66.7
1958-59	102.1	23.0	106.2	---	---	231.3	74.7
1959-60	159.5	23.6	35.1	---	---	218.2	81.2
1960-61	173.9	25.3	82.1	---	---	281.3	87.0
1961-62	539.0	25.9	47.1	---	---	612.0	91.7
1962-63	454.0	24.8	---	---	6.7	485.5	93.7
1963-64	311.7	26.5	4.4	---	36.5	379.1	97.1
1964-65	157.2	26.2	105.6	---	44.7	333.7	86.5
1965-66	26.1	---	38.7	---	3.8	68.6	97.0
1966-67	283.9	---	.9	14.2	18.4	317.4	96.1
1967-68	357.1	---	---	---	7.1	364.2	103.1
1968-69	268.8	---	45.4	---	13.1	327.3	101.9
1969-70	168.6	---	107.1	7.8	7.4	290.9	102.9
1970-71	315.4	---	91.6	3.2	11.6	421.8	91.8
1971-72	267.0	---	63.9	---	7.3	338.2	93.6
1972-73	135.8	---	15.4	.1	1.5	152.8	90.8
1973-74	31.4	---	10.8	28.7	---	70.9	50.2
1974-75	485.8	---	6.5	3.8	---	496.1	122.9
1975-76	69.6	---	4.1	9/2.8	---	76.5	144.0
Transition quarter*	43.5	---	1.0	---	---	44.5	25.5
1976-77	709.8	---	4.5	---	---	714.3	109.7
1977-78	446.4	---	5.0	---	---	451.4	137.8

1/ CCC support purchases and related costs (for processing, packaging, transporting and storing) of dairy products, less proceeds from sales to commercial buyers for domestic use and for export, U.S. military agencies, foreign government and private welfare agencies, and Section 32 programs.

2/ CCC reimbursements to U.S. military agencies, Veterans' Administration and other participants.

3/ Expenditures of Section 32 funds to buy dairy products in the market and from CCC for school lunch and welfare uses.

4/ Purchases of dairy products at market prices under Section 709 of the Food and Agriculture Act of 1965 and under Section 4(a) of the Agriculture and Consumer Protection Act of 1973, for domestic school lunch and welfare uses.

5/ Value of Payment-in-kind certificates issued by CCC on exports of nonfat dry milk, butter and other high-milkfat products, and CCC cost of exports under Title I, P.L. 480 of dairy products not originating in CCC stocks.

6/ Expenditures under the program to increase milk consumption by children in schools, child-care centers, and similar institutions.

7/ Net receipt due to sales exceeding purchases.

8/ Receipt due to adjustment.

9/ Purchases of evaporated milk.

* Start of fiscal year moved to October 1 in 1976.

SOURCE: Agricultural Stabilization and Conservation Service, USDA.

Table 9--USDA expenditures for dairy products, fiscal year ending September 30, 1978

Item	Value					Quantity		
	Butter and butter products	Cheese	Nonfat dry milk	Condensed and evaporated milk	Total	Butter and butter products	Cheese	Nonfat dry milk
	Million dollars					Million pounds		
CCC outlays								
Purchases	154.2	51.2	239.6		445.0	147.0	48.6	341.5
Storage, handling	5.9	1.4	6.4		13.7			
Transportation	2.3	2.5	6.8		11.6			
Processing, packaging	2.4	7.9	3.1		13.4			
Total carrying charges	10.6	11.8	16.3		38.7			
Total outlays	164.8	63.0	255.9		483.7			
Sales proceeds								
Dollar sales	10.6	4.8	17.3		32.7	9.1	4.3	75.4
Donations - Schools & needy	63.3	69.4	29.5		162.2	58.1	63.4	47.5
P.L. 480, Title II	--	--	1/ 59.1		59.1	--	--	150.3
Other receipts	0.1	0.1	4.1		4.3	0.1	0.4	2.1
Total	74.0	74.3	110.0		258.3	67.3	68.1	275.3
Expenditures								
CCC net expenditures	90.8	-11.3	145.9		225.4			
Section 32	--	--	--	5.0	5.0			
P.L. 480, Title II	--	--	1/ 58.8		58.8			
Donations - Schools & needy	63.3	69.4	29.5	--	162.2			
USDA net expenditures	154.1	58.1	234.2	5.0	451.4			

1/ Includes $35.0 million used in CSM.

CCC uncommitted inventories of butter (although down sharply from the late spring peak) still totaled about 176 million pounds on December 1, up about 14 percent from a year ago and the largest in fifteen years. On the other hand, the small American cheese holdings will be utilized in donation outlets in coming months. Uncommitted inventories of nonfat dry milk were still quite large but had been reduced 15 percent from a year earlier.

Uncommitted CCC stocks

Item	November 30	
	1977	1978
	Million pounds	
Butter	154.9	176.4
American cheese	54.5	9.2
Nonfat dry milk	634.3	538.5

FOREIGN DAIRY TRADE AND TRENDS

1978 Imports Larger

Imports of all dairy products (milk equivalent) were up about a fifth from a year ago during August-October. For the first 10 months of 1978, imports were equivalent to about 1.6 billion pounds of milk, up about 12 percent from last year (table 10).

Throughout the summer and early fall, cheese imports continued to be boosted by the strong domestic cheese demand and greater quantities of both quota and non-quota type cheese were imported. It appears likely, however, that quotas for cheese priced at less than the "pricebreak" once again will not be filled this year. Uncertainties surrounding the waiver of countervailing duties may lead to a slowing of cheese imports in early 1979. The calendar year quotas for other manufactured dairy products probably will be mostly filled in 1978, except for canned milk and chocolate crumb quotas. Among nonquota items, both casein and lactose imports have slowed recently; during the first 10 months casein imports were slightly smaller than a year ago but lactose imports were considerably larger.

U.S. dairy trade
(milk equivalent)

Year and quarters	Imports		Exports	Shipments[1]
	Cheese	Other		
	Million pounds			
1977				
1st	343	140	107	123
2nd	315	51	116	170
3rd	418	14	138	142
4th	624	61	99	92
Year[2]	1,701	266	459	527
1978				
1st	379	157	86	[3]168
2nd	337	50	105	156
3rd	486	21	85	143

[1] To U.S. territories. [2] May not add due to rounding. [3] May not be completely comparable to earlier years.

Commercial exports this year continued to slip from last year's small level as less butter, American cheese, and dry whole milk but more canned milk and other-than-American cheese was exported. U.S. dairy products are high-priced relative to products from Oceania or heavily subsidized European products. The overseas market for our dairy products has generally been quite small and has been slowly slipping in recent years.

More nonfat dry milk than a year earlier was exported during August-October with most of the increase donated under PL 480. Powder exports this year will be the most in any year since 1972 but will total much less than the quantity which was available for donation useage or the quantities exported in many earlier years (figure 12).

Slightly more dairy products than last year were shipped to U.S. Territories during January-October. Increased amounts of butter and evaporated milk were responsible as less of other products was shipped.

World Milk Output Up in 1978

Worldwide milk production continued to expand in 1978 among the 36 major producing countries, with milk output expected to exceed last year's record level by 1 percent. Main sources of the increase have been the European Community (EC) and the USSR. Recent weather conditions in Oceania have been favorable and pastures started well, indicating a recovery in that region following the impact of economic factors and adverse weather conditions during the past year.

Butter production is expected to be up slightly in 1978 with year-end stocks up almost a tenth worldwide, leaving surplus disposal a major concern. Cheese output is rising about 4 percent, with year-end holdings possibly down a tenth from last year. While production of nonfat dry milk could be up 4 percent this year, major producing countries are expected to ship larger quantities to the remaining nations of the world, resulting in a decrease in year-end stocks.

Table 10--Dairy products: U.S. imports, quota and non-quota, total 1977, and January-October, 1977-78 1/

Product	Calendar year quota	1977 imports	October			Cumulative, January-October		
			1977	1978	1978 as a % of 1977	1977	1978	1978 as a % of 1977
	Thou. lb.	Thou. lb.	Thou. lb.	Thou. lb.	Pct.	Thou. lb.	Thou. lb.	Pct.
Cheese, quota types								
American-Cheddar	10,037.5	9,337	898	381	42	6,048	5,848	97
-Other	6,096.6	6,407	2,207	430	19	3,496	4,554	130
Italian-Original loaves	11,500.1	9,803	454	691	152	6,963	6,978	100
-Other	1,494.0	1,343	147	25	17	1,036	1,111	107
Edam and Gouda-Natural	9,200.4	8,251	258	877	340	5,437	5,677	104
-Processed	3,151.0	1,064	112	783	699	577	1,613	280
Blue Mold	5,017.0	3,354	276	323	117	2,611	4,031	154
Swiss-Emmenthaler 2/	20,420.0	14,133	228	1,073	471	11,208	8,268	74
-Gruyere-process 2/	11,242.0	9,399	782	1,678	215	6,023	7,605	126
Other-Over 0.5% fat 2/	40,730.0	38,308	3,678	2,606	71	17,681	16,991	96
-Under 0.5% fat 2/	8,901.0	4,981	---	428	---	3,482	841	24
Total	127,789.6	106,381	9,039	9,293	103	64,563	63,518	98
Cheese, non-quota types								
Swiss-Emmenthaler		45,494	4,091	5,559	136	37,544	47,502	127
-Gruyere-process		5,881	511	716	140	5,157	7,123	138
Other		31,940	2,303	4,164	181	26,074	30,360	116
Pecorino		15,825	1,408	1,764	125	13,886	14,659	106
Roquefort		1,620	166	186	112	1,391	1,114	80
Other 3/		2,259	187	251	134	2,149	1,584	74
Total		103,018	8,666	12,642	146	86,202	102,379	119
Other quota products								
Butter	707.0	743	180	55	31	685	478	70
Butteroil	1,200.0	1,200	---	---	---	1,200	1,200	100
Butterfat mixtures	2,580.0	2,393	---	267	---	2,393	2,237	93
Ice cream	3,377.3	3,187	---	4/ 2,194	---	3,187	4/ 4,360	137
Frozen cream	12,540.0	12,529	410	449	110	9,069	11,869	131
Nonfat dry milk	1,807.0	1,825	85	---	---	1,694	4/ 2,316	137
Dried buttermilk	496.0	179	---	---	---	179	281	157
Evaporated milk	1,312.0	44	42	---	---	44	---	---
Condensed milk	4,079.0	767	119	63	53	605	845	140
Chocolate crumb-Regular	17,000.0	6,817	---	---	---	4,072	5,899	145
-Lowfat	4,680.0	2,425	120	200	167	986	1,360	138
Animal feed with milk solids	16,300.0	12,815	---	985	---	9,707	11,945	123
Non-quota products								
Casein		144,245	10,027	8,630	86	122,271	116,384	95
Lactose		3,991	893	114	13	2,866	2,871	100
Milk equivalent, fat solids basis total all products	1,305,620	1,966,758	159,579	189,188	119	1,440,661	1,622,430	113

1/ Preliminary. 2/ Subject to quota if fob price is less than "pricebreak" (7 cents above the American cheese support purchase price, rounded to nearest whole cent--$1.13 effective November 2, 1978). 3/ Gjetost, Bryndza, Gammelost and Noekkelost, and Goya. 4/ Probable error in reported data.

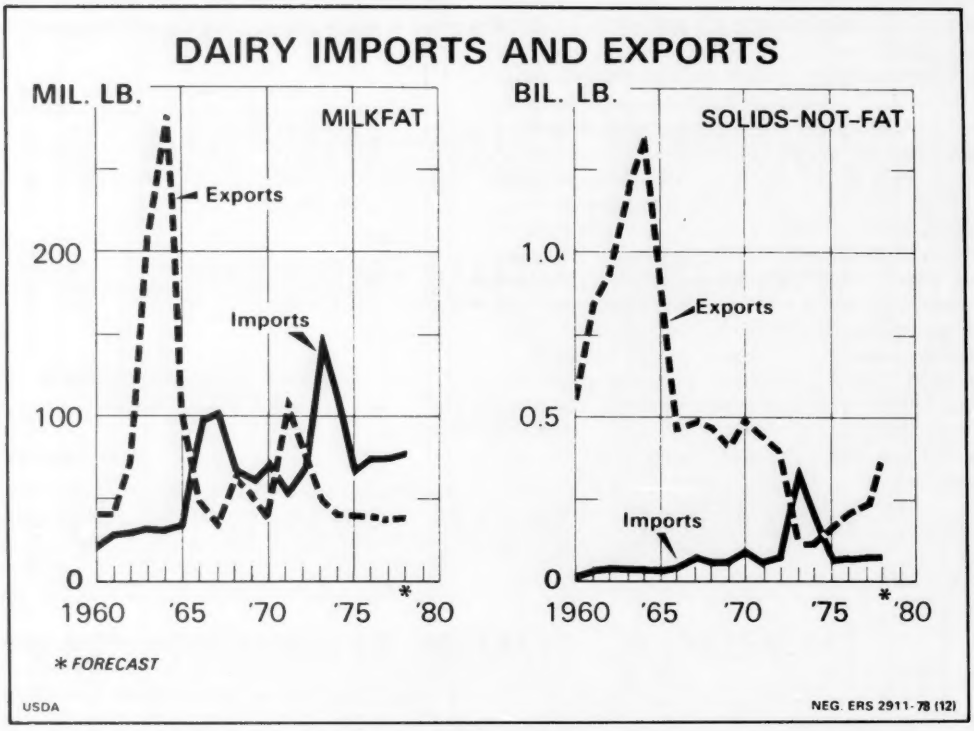
DAIRY IMPORTS AND EXPORTS
MIL. LB.
MILKFAT
Exports
Imports
200
100
0
1960
'65
'70
'75
*
'80
BIL. LB.
SOLIDS-NOT-FAT
1.0
0.5
Exports
Imports
0
1960
'65
'70
'75
*
'80
* FORECAST
USDA
NEG. ERS 2911-78 (12)

Figure 12

Table 11.--U.S. Dairy Situation at a Glance

Item	Unit or base period	1976	1977					1978		
		Oct.	Aug.	Sept.	Oct.	Nov.	Year	Aug.	Sept.	Oct.
Production and cow numbers:										
Total milk	Mil. lb.	9,626	10,397	9,850	9,844	9,429	122,957	10,259	9,732	9,818
Milk per cow	Lb.	872	947	898	899	861	11,194	945	897	906
Number of milk cows	Thou.	11,045	10,976	10,972	10,955	10,952	10,984	10,855	10,847	10,837
Prices received by farmers:										
All milk, sold to plants, 100 pounds	Dol.	9.96	9.66	9.97	10.10	10.20	9.72	10.50	10.90	11.30
Percentage of parity 1/	Pct.	80	78	77	76	75	75	75	75	75
Manufacturing grade milk, 100 pounds	Dol.	8.54	8.64	8.84	9.02	9.11	8.70	9.58	9.92	10.50
Parity equivalent	Dol.	10.16	10.93	10.93	10.93	10.93	10.93	12.16	12.33	12.41
Fat content	Pct.	3.77	3.54	3.65	3.78	3.81	3.66	3.55	3.63	3.76
Minnesota-Wisconsin (3.5% fat), 100 pounds	Dol.	8.26	8.64	8.74	8.74	8.79	8.58	9.68	9.90	10.18
Milk eligible for fluid market, 100 pounds	Dol.	10.30	9.91	10.20	10.40	10.50	9.96	10.70	11.10	11.50
Price ratios and dairy ration values:										
Milk-feed	Lb.	1.56	1.65	1.76	1.79	1.76	1.57	1.76	1.81	1.86
Manufacturing grade milk-hog	Lb.	.26	.20	.22	.23	.24	.22	.20	.21	.21
Manufacturing grade milk-beef cattle	Lb.	.27	.25	.25	.25	.26	.25	.20	.19	.20
Value of concentrate ration fed milk cows	Dol.	6.38	5.85	5.67	5.64	5.79	6.21	5.98	6.01	6.08
Farm cash receipts from dairy products	Mil. dol.	935	993	963	978	945	11,776	1,045	1,016	1,016
Production of factory products:										
Butter	Mil. lb.	78.1	77.8	75.0	84.5	81.5	1,085.6	64.2	64.5	71.1
American cheese, whole milk	Mil. lb.	150.2	164.9	141.4	146.2	135.4	2,042.4	167.5	149.2	159.0
Cheese, other than American	Mil. lb.	104.3	110.7	110.3	110.5	112.3	1,315.5	117.1	115.7	120.4
Canned milk, unskimmed	Mil. lb.	59.2	73.4	59.7	53.5	47.1	818.9	69.0	58.2	58.9
Dry whole milk	Mil. lb.	4.6	6.5	4.7	4.3	4.2	69.4	5.5	5.0	4.9
Frozen products 2/	Mil. gal.	82.9	121.3	102.1	83.7	76.4	1,147.4	123.1	103.1	90.6
Creamed cottage cheese	Mil. lb.	69.5	77.2	73.6	69.5	69.5	877.6	77.2	72.2	72.0
Total whole milk equivalent 3/	Mil. lb.	4,715	5,613	4,937	4,838	4,591	65,879	5,323	4,854	4,837
Nonfat dry milk, human use	Mil. lb.	56.5	106.0	77.6	70.3	65.1	1,106.0	78.6	59.1	49.0
Wholesale prices:										
Butter, Grade A, Chicago,	Ct.	90.8	100.7	100.7	100.7	100.9	98.4	116.7	115.8	115.6
Cheese, American (40-pound blocks), f.o.b. Wisconsin assembling points, pound	Ct.	93.3	97.1	98.3	98.3	98.8	96.8	109.1	110.8	115.5
Evaporated milk, case	Dol.	14.40	15.25	15.25	15.25	15.25	15.01	16.26	16.31	16.57
Dry whole milk, pound	Ct.	78.4	82.5	82.7	82.3	83.8	80.8	90.7	92.6	94.9
Nonfat dry milk, pound	Ct.	63.1	68.1	67.9	67.9	68.0	66.5	71.5	72.5	73.2
Dairy products and ice cream index (BLS)	1967=100	169.5	175.3	175.7	175.9	176.9	173.4	190.8	192.9	197.0
Retail prices (BLS):										
Consumer price index 4/	1967=100	173.3	183.3	184.0	184.5	185.4	181.5	197.7	199.3	200.9
All food 4/	1967=100	181.6	195.2	194.5	194.4	195.6	192.2	215.4	215.6	216.8
All dairy products 4/	1967=100	172.7	175.1	175.4	176.2	176.5	173.9	186.1	188.8	191.1
Fluid milk and cream	12/77=100	---	---	---	---	---	---	105.1	106.5	107.8
Whole milk	1967=100	163.7	162.9	162.6	163.4	163.8	162.3	172.1	174.2	176.5
Other	12/77=100	---	---	---	---	---	---	105.1	106.6	107.6
Manufactured dairy products	12/77=100	---	---	---	---	---	---	105.3	107.0	108.3
Butter	1967=100	159.0	164.4	165.4	165.8	167.0	161.8	180.7	187.0	189.3
Cheese	12/77=100	---	---	---	---	---	---	104.8	106.7	107.8
Frozen desserts	12/77=100	---	---	---	---	---	---	105.5	106.4	108.0
Other	12/77=100	---	---	---	---	---	---	105.1	105.4	107.0
Margarine	1967=100	189.6	218.5	219.2	214.1	214.3	205.6	230.9	231.9	231.6
Stocks, end of month:										
Creamery butter	Mil. lb.	60.7	208.6	203.3	195.4	193.4	---	282.4	266.6	247.6
Cheese, total 5/	Mil. lb.	501.5	608.0	569.7	519.3	498.1	---	524.9	511.9	483.8
Canned milk, unskimmed	Mil. lb.	131.8	158.8	148.6	134.3	101.0	---	134.4	136.0	113.8
Dry whole milk	Mil. lb.	10.5	6.5	6.3	5.8	5.9	---	9.3	7.4	5.3
Total whole milk equivalent 6/	Mil. lb.	6,363	10,475	9,972	9,294	8,980	---	11,147	10,662	9,940
Nonfat dry milk	Mil. lb.	501.6	653.4	679.0	688.3	681.7	---	701.7	681.5	639.5
Commercial disappearance:										
Creamery butter	Mil. lb.	81.3	72.8	89.1	81.5	74.0	859.8	75.1	79.9	73.2
Cheese, American	Mil. lb.	170.9	151.0	180.8	196.2	153.7	1,958.1	177.3	169.0	176.2
Cheese, other than American	Mil. lb.	121.1	127.8	128.9	130.4	128.4	1,512.3	139.8	128.0	144.8
Canned milk, unskimmed	Mil. lb.	61.3	45.3	68.2	66.1	79.2	799.2	53.3	55.9	79.4
Milk in all products	Mil. lb.	9,809	10,015	10,477	10,230	9,421	116,398	10,435	10,154	10,062
Nonfat dry milk	Mil. lb.	51.0	56.4	67.2	57.6	43.8	681.6	80.2	62.8	51.5
USDA net removals:										
Butter	Mil. lb.	4.9	13.3	---	7.0	5.4	221.8	-6.0	-6.3	---
Cheddar cheese	Mil. lb.	.4	24.0	2.9	1.4	.4	148.2	3.5	---	---
Nonfat dry milk	Mil. lb.	8.9	62.7	36.8	26.4	22.0	461.7	18.8	7.7	6.9
Evaporated milk	Mil. lb.	1.5	2.7	1.6	1.9	1.2	15.9	1.5	1.1	1.8
Total whole milk equivalent	Mil. lb.	108	518	32	162	119	6,080	-86	-127	4
Fluid sales, change from year earlier: 7/										
Whole milk	Pct.	-4.2	-2.3	-2.4	-3.8	-3.9	-3.5	-2.9	-3.3	-1.8
Cream and cream mixtures	Pct.	+6.1	+7.1	+7.7	+6.2	+6.5	+7.0	+3.4	+3.1	+4.7
Low-fat and skim milk	Pct.	-.7	+1.0	+1.2	-.2	-.4	-.1	-.7	-.9	+.6
Total	Pct.	-4.0	+3.0	-.8	-2.6	-1.5	+1.6	-2.6	-5.1	N.A.

1/ Seasonally adjusted price as percentage of parity price.
2/ Ice cream, ice milk, and sherbet.
3/ Includes manufactured products for which current monthly series are available.
4/ For all urban consumers starting January 1978.
5/ Natural, plus process American cheese held by CCC.
6/ Excludes cream and bulk condensed milk.
7/ Daily average sales in Federal and State marketing areas.

N.A. = Not Available.

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